

Serial No. 10/775,964

CLAIM LISTING:

1-33. (Canceled)

34. (Currently amended) A method of producing a microparticle composition, said method comprising:

(a) forming an emulsion comprising (i) a polymer selected from the group consisting of a poly(α -hydroxy acid), a polyhydroxy butyric acid, a polycaprolactone, a polyorthoester, a polyanhydride, and a polycyanoacrylate, (ii) an organic solvent, (iii) a detergent and (iv) water; and

(b) removing the organic solvent from the emulsion to form microparticles; wherein said microparticles are subjected to a filtration step such that about 10-90% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound, or wherein said microparticles are not subjected to a washing step and the ratio of the detergent to the polymer used is such that about 10-90% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound; and

(c) adsorbing a biologically active macromolecule to said microparticles.

35. (Previously presented) The method of claim 34, wherein the emulsion is a water-in-oil-in-water emulsion that is formed by a process comprising:

(a) emulsifying an organic phase comprising the polymer and the organic solvent with a first aqueous phase comprising water to form a water-in-oil emulsion; and

(b) emulsifying a second aqueous phase comprising the detergent and water with the emulsion formed in step (a) to form a water-in-oil-in-water emulsion.

36. (Original) The method of claim 34, wherein a cross-flow filtration step is performed after removing the organic solvent.

37. (Currently amended) A method of producing a microparticle composition, said method comprising:

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(a) forming an emulsion comprising (i) a polymer selected from the group consisting of a poly(α -hydroxy acid), a polyhydroxy butyric acid, a polycaprolactone, a polyorthoester, a polyanhydride, and a polycyanoacrylate, (ii) an organic solvent, (iii) a cationic detergent and (iv) water, wherein the cationic detergent is provided in the emulsion at a weight to weight detergent to polymer ratio of from about 0.05:1 to about 0.5:1; and

(b) removing the organic solvent from the emulsion to form microparticles; wherein said microparticles are subjected to a filtration step such that about 10-90% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound

(c) adsorbing a biologically active macromolecule to said microparticles.

38. (Previously presented) The method of claim 37, wherein the cationic detergent is provided in the emulsion at a weight to weight detergent to polymer ratio of from about 0.1:1 to about 0.5:1, wherein the polymer is poly(D,L-lactide-co-glycolide), and wherein the cationic detergent is cetyl trimethyl ammonium bromide (CTAB).

39. (Currently amended) A method of producing a microparticle composition, said method comprising:

(a) forming an emulsion comprising (i) a polymer selected from the group consisting of a poly(α -hydroxy acid), a polyhydroxy butyric acid, a polycaprolactone, a polyorthoester, a polyanhydride, and a polycyanoacrylate, (ii) an organic solvent, (iii) a cationic detergent and (iv) water, wherein the cationic detergent is provided in the emulsion at a weight to weight detergent to polymer ratio of from about 0.001:1 to about 0.05:1; and

(b) removing the organic solvent from the emulsion to form microparticles; wherein said microparticles are not subjected to a washing step and the ratio of the detergent to the polymer used is such that about 10-90% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound; and

(c) adsorbing a biologically active macromolecule to said microparticles.

40. (Previously presented) The method of claim 39, wherein the cationic detergent is provided in the emulsion at a weight to weight detergent to polymer ratio of from about 0.002:1 to about 0.04:1, wherein the cationic detergent is cetyl trimethyl ammonium bromide (CTAB),

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wherein the polymer is poly(D,L-lactide-co-glycolide), and wherein the microparticles are not subjected to a step to remove excess CTAB from the composition.

41. (Original) The method of claim 34, wherein the polymer is a poly(D,L-lactide-co-glycolide) having a lactide/glycolide molar ratio ranging from 40:60 to 60:40 and a molecular weight ranging from 30,000 Daltons to 70,000 Daltons.

42. (Original) A microparticle composition formed by the process of claim 34.

43-61. (Canceled)

62. (Previously presented) The method of claim 34, wherein about 10-60% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound.

63. (Previously presented) The method of claim 34, wherein about 25-40% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound.

64. (Previously presented) The method of claim 37, wherein about 10-60% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound.

65. (Previously presented) The method of claim 37, wherein about 25-40% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound.

66. (Previously presented) The method of claim 39, wherein about 10-60% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound.

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67. (Previously presented) The method of claim 39, wherein about 25-40% of the total detergent in the microparticle composition is bound to the microparticles and the remainder is unbound.

68. (Previously presented) The method of claim 39, wherein said microparticles are not subjected to a step to remove excess cationic detergent.

69. (Previously presented) The method of claim 39, wherein said microparticles are not subjected to a filtration step.

70. (Previously presented) The method of claim 34, wherein the microparticles are not washed by centrifugation.

71. (New) The method of claim 34, wherein said detergent comprises an anionic detergent.

72. (New) The method of claim 71, wherein said biologically active macromolecule comprises a polypeptide.

73. (New) The method of claim 34, wherein said detergent comprises a cationic detergent.

74. (New) The method of claim 73, wherein said biologically active macromolecule comprises a polynucleotide.

75. (New) The method of claim 37, wherein said biologically active macromolecule comprises a polynucleotide

76. (New) The method of claim 39, wherein said biologically active macromolecule comprises a polynucleotide